

**M.S.121. VINCY SAMUEL—Some Histological Studies  
on the Indian White Prawn *Penaeus indicus* H. Milne Edward,  
1873—1989—Dr. V.J. Kutty Amma**

The availability of seed and relatively faster growth makes the penaeid prawn *Penaeus indicus* apparently superior candidate for culture and is an ideal species for farming in Kerala region. With the increasing interest in the aquaculture of this species, a study of its histology becomes necessary for a better diagnosis and control of diseases. The present study has mainly dealt with the histology of some of the organ systems in *P. indicus*.

Histological and histochemical nature of the different layers of the integument and the tegumental glands seen among the epidermal cells have been studied in detail. The gills are the primary sites of respiration and osmo-regulation. The description of the gills, showing different cell layers and the structure of the gill filaments gives a detailed information on this aspects of study. The structure and histology of the various regions of the digestive system, such as the oesophagus, cardiac foregut, puloric foregut, hepatopancreas, midgut, anterior and posterior diverticulum and hindgut are given. The hepatopancreas in *P. indicus* include four types of cells viz; Embryonic (E-) cells Absorptive (R-) cells, Fibrillar (F-) cells and secretory (B-) cells. The secretory (B-) cells show spocrine mode of secretion.

The neurosecretory cells of the eyestalk, brain and thoracic ganglion are being described. Three types of cells viz; cell type I, cell type II and cell type III could be identified in the eyestalk, brain and thoracic ganglion. The X-organ is composed of only Type II cells. The position of the sinus gland which forms the well known realizing centre of the hormones is also given. The histology of the ovary and testis oogenesis and spermatogenesis and the histology of vas deferens is given. The spermatozoa in *P. indicus* has a round body with a single spike. In the vas deference of *P. indicus* of size 130 mm four regions could be distinguished. The epidermal cells of the integument diminish in size during postmoult and intermoult upto early premoult, after which they grow. Glycogen is stored in the epidermis and connective tissue during intermoult and early premoult, suggesting that it may be utilized in the formation of chitin. Changes are occurring in the tissues of integument, gill and hepatopancreas when the specimens are exposed to cadmium and Ekalux. The integument, after six days exposure to cadmium showed blackened cuticular lesions, where as integument

after six days of exposure to Ekalux showed little change, when compared with the controls.